

October 18, 2007

James H. McCarthy
Site Vice President
FPLE-Point Beach
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS RE: REACTOR COOLANT SYSTEM PRESSURE AND
TEMPERATURE LIMITS REPORT TECHNICAL SPECIFICATION 5.6.5
(TAC NOS. MD3800 AND MD3801)

Dear Mr. McCarthy:

The Commission has issued the enclosed Amendment No. 229 to Renewed Facility Operating License No. DPR-24 and Amendment No. 234 to Renewed Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to the Nuclear Management Company, LLC (the licensee at the time of submittal) application dated December 14, 2006, as supplemented by letter dated June 13, 2007.

These amendments revises TS 5.6.5, "Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)" to add the FERRET Code as an approved methodology for determining RCS pressure and temperature limits.

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Jack Cushing, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures:

1. Amendment No. 229 to DPR-24
2. Amendment No. 234 to DPR-27
3. Safety Evaluation

cc w/encls: See next page

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DATE	10/15/07	10/4/07	10/10/07	8/23/07	9/5/07	10/12/07	10/18/07

OFFICIAL RECORD COPY

Point Beach Nuclear Plant, Units 1 and 2

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FPL ENERGY POINT BEACH, LLC

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 229

License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nuclear Management Company, LLC (the licensee at the time of submittal), dated December 14, 2006, as supplemented by letter dated June 13, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 4.B of Renewed Facility Operating License No. DPR-24 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 229, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Travis L. Tate, Acting Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications
and Facility Operating License

Date of issuance: October 18, 2007

FPL ENERGY POINT BEACH, LLC

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 234
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nuclear Management Company, LLC (the licensee at the time of submittal), dated December 14, 2006, as supplemented by letter dated June 13, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 4.B of Renewed Facility Operating License No. DPR-27 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 234, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Travis L. Tate, Acting Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications
and Facility Operating License

Date of issuance: October 18, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 229
TO RENEWED FACILITY OPERATING LICENSE NO. DPR-24
AND LICENSE AMENDMENT NO. 234
TO RENEWED FACILITY OPERATING LICENSE NO. DPR-27
DOCKET NOS. 50-266 AND 50-301

Replace the following pages of the Facility Operating Licenses and Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

Unit 1 License Page 3
Unit 2 License Page 3
Unit 1 and 2 TS Page 5.6.5

INSERT

Unit 1 License Page 3
Unit 2 License Page 3
Unit 1 and 2 TS Page 5.6.5

- D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, FPLE Point Beach to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - E. Pursuant to the Act and 10 CFR Parts 30 and 70, FPLE Point Beach to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.
4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:
- A. Maximum Power Levels

FPLE Point Beach is authorized to operate the facility at reactor core power levels not in excess of 1540 megawatts thermal.
 - B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 229, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.
 - C. Spent Fuel Pool Modification

The licensee is authorized to modify the spent fuel storage pool to increase its storage capacity from 351 to 1502 assemblies as described in licensee's application dated March 21, 1978, as supplemented and amended. In the event that the on-site verification check for poison material in the poison assemblies discloses any missing boron plates, the NRC shall be notified and an on-site test on every poison assembly shall be performed.

- C. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, FPLE Point Beach to receive, possess and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed source for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, FPLE Point Beach to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - E. Pursuant to the Act and 10 CFR Parts 30 and 70, FPLE Point Beach to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.
4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:
- A. Maximum Power Levels

FPLE Point Beach is authorized to operate the facility at reactor core power levels not in excess of 1540 megawatts thermal.
 - B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 234, are hereby incorporated in the renewed operating license. FPLE Point Beach shall operate the facility in accordance with Technical Specifications.
 - C. Spent Fuel Pool Modification

The licensee is authorized to modify the spent fuel storage pool to increase its storage capacity from 351 to 1502 assemblies as described in licensee's application dated March 21, 1978, as supplemented and amended. In the event that the on-site verification check for poison material in the poison assemblies discloses any missing boron plates, the NRC shall be notified and an on-site test on every poison assembly shall be performed.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 229 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-24

AND AMENDMENT NO. 234 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-27

FPL ENERGY POINT BEACH, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By application to the U.S. Nuclear Regulatory Commission (NRC) dated December 14, 2006 (Ref. 1), as supplemented by letter dated June 13, 2007 (Ref. 2), the Nuclear Management Company, LLC (NMC, the licensee at the time of the submittal), requested changes to the Technical Specifications (TSs) for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The supplement dated June 13, 2007, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on January 16, 2007 (72 FR 1780). FPL Energy Point Beach, LLC has since become the current licensee, following a license transfer that occurred on August 28, 2007. Therefore, from hereon in this safety evaluation (SE) any correspondence from NMC will be referred to as correspondence from the licensee.

The proposed amendment would revise TS 5.6.5, "Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)". The revision would add the FERRET Code as an approved methodology for determining RCS pressure and temperature (P-T) limits for PBNP, Units 1 and 2.

During its review of the proposed license amendment discussed herein, the NRC staff determined that the RCS P-T limits for PBNP exceeded the approved limit of 25.59 effective full power years (EFPYs) of operation for Unit 1. The approved EFPYs of operation for Unit 1 corresponded to October 30, 2003. Because actual operation for Unit 1 did not match predicted operation, Unit 1 did not actually exceed its EFPYs of operation until February 2004.¹ In a letter to the NRC dated November 7, 2003 (ML033240022), the licensee stated that they planned to issue new P-T curves prior to Unit 1 reaching 25.59 EFPYs. The licensee did not submit a revision of the PTLR until December 14, 2006. The results of the latest fluence calculations, and the fact that the P-T limits, the limiting RPV beltline values, and the material

¹ In safety evaluation (SE) dated July 23, 2001, Unit 2 had an EFPYs, corresponding to October 1, 2008. The NRC staff did not find that the Unit 2 reactor vessel had exceeded its EFPYs.

properties for Unit 1 remain unchanged, demonstrate that the Unit 1 reactor vessel was not outside its safety limits. The vessel was fully capable to perform the required service.

2.0 REGULATORY EVALUATION

The regulatory requirements for pressure vessel fluence calculations are specified in General Design Criteria (GDCs) 30 and 31 (Ref. 4). In March 2001, the NRC staff issued Regulatory Guide (RG) 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence" (Ref. 5). The NRC staff has approved vessel fluence calculation methodologies which satisfy the requirements of GDC 30 and 31 and adhere to the guidance in RG 1.190. Fluence calculations are acceptable if they are performed in accordance with approved methodologies or with methodologies which are shown to conform to the guidance in RG 1.190. Reactor coolant system P-T limit requirements, are specified in Appendix G to Title 10 of the *Code of Federal Regulations* Part 50, "Fracture Toughness Requirements."

3.0 TECHNICAL EVALUATION

3.1 FERRET Code Methodology

The proposed amendment would revise TS 5.6.5.b for both PBNP units to add the FERRET methodology (Ref. 6) to the PTLR approved methodologies for the calculation of the vessel fast neutron ($E > 1.0$ MeV) fluence. The FERRET Code was submitted for staff review in the Westinghouse topical report WCAP-16083-NP. The FERRET Code describes a least squares dosimetry optimization method for use in pressurized-water reactors (PWR) vessel dosimetry measurements. The Code was benchmarked and staff review found it acceptable for referencing in PWR vessels dosimetry calculations. The FERRET Code was approved by the NRC staff on January 10, 2006 (Ref. 3). One of the acceptance criteria was that the transport and dosimetry calculations follow the guidance in RG 1.190 (Ref. 5). The fluence value used for the estimation of the material properties per Appendix G to 10 CFR Part 50 for both PBNP units is determined in accordance with the guidance in RG 1.190. Therefore, the NRC staff finds that the TS change request to add the FERRET code to TS 5.6.5 as an approved methodology is acceptable.

3.2 Effective Full Power Years

Westinghouse performed extensive fluence calculations for PBNP Unit 1 with and without the FERRET Code. Those calculations also accounted for hafnium rods (used in the early part of the PBNP operation for vessel flux reduction) in a variety of configurations and accounted for power uprates. The latest best estimate fluence calculations performed by Westinghouse are documented in LTR-REA-04-64 (Ref. 7) and demonstrate that the best estimate value (using the FERRET code) is 29.5 EFPYs for PBNP Unit 1, and is applicable until June 2008. Because the EFPYs for PBNP Unit 2, were not exceeded, the Unit 2 EFPYs were not further evaluated in this SE.

The results of Westinghouse's latest fluence calculations, per the FERRET methodology, coupled with the fact that the P-T limits and the limiting RPV beltline values and material properties for both units remain unchanged, correspondingly demonstrate that the Unit 1 reactor vessel was not outside its safety limits. The vessel was fully capable to perform the required service, i.e., the fluence value used for the estimation of the material properties per Appendix G to 10 CFR Part 50 is conservative and in accordance with the guidance in RG 1.190. This conclusion is supported by the information in the NRC Reactor Vessel Integrity

Database. Based on the forgoing, the NRC staff concludes that the PBNP, Unit 1, P-T limits satisfy the requirements of Appendix G to 10 CFR Part 50 and are acceptable for operation through 29.5 for PBNP Unit 1. The NRC staff has completed its review of the FERRET code and the EFPYs and with the issuance and implementation of this license amendment, PBNP, Unit 1 reactor vessel will be in compliance with TS 5.6.5 and the associated P-T limits.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (72 FR 1780). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter from D.L. Koehl, Point Beach, to U.S. Nuclear Regulatory Commission "License Amendment Request 251; Technical Specification 5.6.5, Reactor Coolant System Pressure and Temperature Limits Report" dated December 14, 2006, (ML06349004).
2. Letter from D.L. Koehl, Point Beach, to U.S. Nuclear Regulatory Commission "Supplement to License Amendment Request 251; Technical Specification 5.6.5, Reactor Coolant System Pressure and Temperature Limits Report" dated June 13, 2007, (ML071650095).
3. U.S. Nuclear Regulatory Commission "Final Safety Evaluation for Westinghouse Owners Group Topical Report WCAP-16083NP, REVISION 0, "Benchmark Testing of the FERRET Code for Least Squares Evaluation of Light Water Reactor Dosimetry" January 10, 2006, (ML053550466).

4. Appendix A to 10 CFR Part 50, General Design Criterion 30, "Quality of Reactor Coolant Pressure Boundary", and General Design Criterion 31, "Fracture Prevention of Reactor Coolant Pressure Boundary."
5. U.S. Nuclear Regulatory Commission Regulatory Guide (RG) 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence" March 2001.
6. WCAP-16083NP-A, "Benchmark Testing of the FERRET Code for Least Squares Evaluation of Light Water Reactor Dosimetry" S. Anderson, Westinghouse Electric Company LLC, May 2006, (ML061600256).
7. Westinghouse Report LTR-REA-04-64, "Pressure Vessel Neutron Exposure Evaluations," PBNP, Units 1 and 2, S. L. Anderson, June 2004, Non-Proprietary Class 3. Submitted as an enclosure to the June 13, 2007, letter from D.L. Koehl (ML071650095).

Principal Contributors: L. Lois, NRR
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Date: October 18, 2007